

# Gods of the Anthropocene

## Geo-Spiritual Formations in the Earth's New Epoch<sup>1</sup>

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### **Abstract**

In this paper I argue that we need not only to 'decolonise' the Anthropocene but also to 'desecularise' it – to be aware that in the new age of the Earth we may be coeval with gods and spirits. Drawing particularly on the work of Giles Deleuze, Felix Guattari and Georges Bataille, and using concepts from both thermodynamics and fluid dynamics, I start to develop an interdisciplinary theory of planetary spirit, and use this to speak of both the 'laminar' high gods of time that are being invoked to summon the story of Earth's ongoing transformation into a canonical mythos, and the turbulent lower spirits of place which manifest particular, situated dynamics on an Earth crossed by interlocking gradients and flows of energy, value, power and entropy. I suggest that what might once have been distinct territorialised 'cultures' or 'natures' in which humans engaged in particular situated patterns of interaction with animals, spirits and other beings are increasingly being convened into a global multinatural system.

### **Keywords**

Anthropocene ■ religion ■ gods ■ spirits ■ thermodynamics  
■ semiotics

As the flows of energy and matter around the word are altered, and it is suggested that we are entering a new geological epoch, what will become of the sacred? The very nomenclature of 'the Anthropocene', or the 'age of humans', seems to suggest that the planet is becoming a mere echo chamber in which the human being will be the only source and telos of agency. Just as supernature was supposedly banished as a source of agency and meaning by the onward march of modernization, it seems to be being assumed, so too will non-human nature. Yet there are growing voices insisting that the so-called 'Anthropocene' will be dominated not by the will of 'man' but by a growing entanglement of heterogeneous human and non-human agencies within the body of the Earth (Latour, 2015; Haraway, 2015). Whatever the ecomodernists might suggest (Asafu-Adjaye et al., 2015), the new epoch of the Earth will be 'noisy'.

But what has not been much discussed to date is the possibility that the coming epoch of the Earth might involve a great acceleration *of spirit*. There are welcome moves to ‘decolonize’ or ‘indigenize’ the Anthropocene’: to challenge the falsely unified and Eurocentric bias of the story being told about the Earth’s transformation (Morrison, 2015), and to make space for the perspectives of non-Western, often subjugated peoples.<sup>2</sup> However, for this move to be carried through consistently we would also need to desecularize the geophilosophical discourse of the Anthropocene. As Dipesh Chakrabarty argues in *Provincializing Europe*, ‘history 1’, the triumphalist European history of progress and reason, is constantly being brought into tension with ‘history 2’, the multiple narratives of indigenous and colonized peoples (Chakrabarty, 2000). When theorising the Anthropocene we need to ‘take gods and spirits to be existentially coeval with the human, and think from the assumption that the question of being human involves the question of being with gods and spirits’ (Chakrabarty, 2000: 16) – and thus to maintain a creative tension between what we might call Anthropocenes 1 and 2 – between a singular geochronological story of a singular planet and the multiple narratives of indigenous and colonized peoples.

While my own project echoes that of Chakrabarty in many respects, I will take a slightly different path. Chakrabarty uses the subaltern historiography of South Asia to demote to the status of merely ‘provincial’ habits of European thought two standard assumptions in social scientific accounts of political modernity: the idea of a unitary historical time that unfolds through stages, and an understanding of natural and social reality that is singular and secular (albeit with Christian roots) and in which gods and spirits are thus unreal. Like Chakrabarty I use theoretical resources from European thought itself in order to provincialize its ground assumptions, but whereas he does so by creatively exploiting the tensions between the analytical-critical and hermeneutic traditions of the social sciences, I also draw heavily on concepts from the physical sciences. It is perhaps more usual for social science and humanities scholars to see quantum science as the area of western physics with the most potential to challenge a naturalist view of the world (e.g. Barad, 2007); however, I follow writers such as Deleuze (1994), Serres (2000) and Stengers (Prigogine and Stengers, 1984) in regarding non-equilibrium thermodynamics and dynamics as highly important and productive areas for engagement. In particular, I suggest that finding and forging ‘passages’ (Serres, 1980) between these areas of the physical sciences and traditions within the social sciences can help us to investigate the relationship between flows of matter, energy, value and spirit, to grasp the heterogeneous, shifting and contested nature of the Earth’s spiritual body, and thereby to start to develop a post-secular analysis of a dynamic planet.

In what follows I will use ‘spirit’ to refer to any embodied or disembodied non-human agency that is experienced, interacted with or is otherwise socially consequential but is not (or not always) mapped onto a single body of the kind that is recognized by Western ‘naturalism’ as capable of consciousness or agency. I will focus on the distinction and relation between two classes of spirit, which I call the ‘high gods’ and the ‘low spirits’ of the Anthropocene. In the next section I will introduce my first set of theoretical resources, relating concepts derived from far-from equilibrium thermodynamics – energy flows, self-organization and immanence-breaking – to ideas from the social theory of Georges Bataille, Gilles Deleuze and Felix Guattari. I then use these to enumerate and discuss particular spiritual

entities which I call the warring ‘high gods’ of the Earth’s new epoch: ‘full, clothed bodies’ conjured in order to cohere competing canonical suturings of the Earth and its powers. I then introduce a new set of resources in which concepts from fluid dynamics – advection, diffusion, turbulence, motilization – are brought into dialogue with Marxian concepts of unequal exchange and primitive accumulation. I use this second constellation of ideas to reinterpret anthropological accounts of ‘low spirits’ of spiritual entropy that seem to accompany the incorporation of local gift economies into global commodity flows. I will conclude by arguing that this analysis can help us understand the way that Earth is being cohered as a complex heterogeneous body.

## Theorising Planetary Spirit I

How can we make space for spiritual entities in geophilosophical accounts of the material self-organization of the Earth? There have recently been attempts in anthropology to break more decisively with the discipline’s early tendency to treat spiritual beings as at worst illusory or at best symbolic, and instead to ‘take them seriously’ as pragmatically significant agential entities in social life (see Willerslev, 2013; Blanes and Espirito Santo, 2014). Philippe Descola has helped to create space for spirits by arguing that the Western, ‘naturalist’ view of nature as a unified lawful causal domain is merely one provincial ‘ontology’ or ‘schema’, and that other schemas such as animism make very different assumptions about the relationship between inner subjectivity and outer material form, and thus about what kind of things can exist. Indeed, only in naturalism would we simply ask whether spirits are ‘real’, or ‘exist’, as if there were one set of criteria for all entities (Kohn, 2015); by abandoning the presuppositions of naturalism we can instead treat spiritual entities as having their own ‘mode of existence’, their own ‘felicity conditions’ (Latour, 2013).

However, to construct even the outlines of a general theory of planetary spirit we will need to complement these anthropological insights with some more specific theoretical equipment. Firstly we need to draw on *thermodynamics*, the study of energy and entropy. As well as helping us to understand particular manifestations of spirit on a changing planet, thermodynamics is foundational to the conception of the Earth as a complex, dynamic assemblage that gives rise to different forms (Szerszynski, 2016; forthcoming). The Earth has developed over geological timescales from originary formlessness and immanence in an ongoing dialectic between the intensive (differences and gradients) and the extensive (form and structure), involving near-equilibrium processes such as sorting and sedimenting and far-from-equilibrium processes of self-organization (DeLanda, 1992: 142-3). Crucial here is the way that this process of self-formation and emergence has passed through a cascade of symmetry-breaking ‘bifurcations’ (DeLanda, 2002: 17, 20), irreversible processes in which modes of immanence have been broken due to the emergence of new kinds of entity with different relations between inside and outside. Significant bifurcations in this ‘geotraumatic system’ (Land, 2012) would include the formation of the planet, that of its compartments of rock, atmosphere and hydrosphere, the enclosure of life from its environment, and the respective emergence of the structured eukaryotic cell, the multicellular metazoan and the tool-using human (Szerszynski, 2016; forthcoming).

Secondly, however, immanence-breaking does not mean completely losing touch with immanence, since each new class of entity has to form a relationship with the mode of immanence it has broken in order to maintain its own form of existence. Emergence is thus never simply a chronological relation of before and after, but a non-temporal, topological, semiotic or proto-semiotic phenomenon in which inside (firstness) and outside (secondness) are brought into significant relation (thirdness) (Peirce, 1868). For Georges Bataille (1989), whose work we will return to below, the decisive moment of immanence-breaking occurs with the human creation of a 'real' world of objects and utility, which results in a 'lost intimacy' with the immanence and immediacy of animal being. However, the realm of animal immanence then comes to play a central role within human culture as an object of both horror and fascination that manifests in the world of spirits. In Viveiros de Castro's Deleuzian ontology of the Amazonian spirit realm, spirits are non-representational 'images' or 'signs' of the originary undifferentiated ground of mythic time. This virtual plane of 'intensive multiplicity', characterized by an infinite and internal difference in which an original transparency has not yet been divided into the invisibility of spirit and opacity of body, and because of which all beings can potentially transform between each other, is still available to shamanic consciousness (Viveiros de Castro, 2007: 157-60).

Thirdly, we need to distinguish different 'geo-spiritual formations', historically contingent 'suturings' of the Earth (Laclau and Mouffe, 1985) that achieve some level of coherence between material and energetic flows, the organization of society, and the world of spirits. Crucial here will be the analysis by Deleuze and Guattari in *Anti-Oedipus* of the different ways that generative flows are organized into a specific formation, or as they call it 'social machine', by the invocation of a 'socius', a 'clothed, full body' to which is attributed all powers of production (1977: 10). Deleuze and Guattari schematically describe three specific formations and corresponding socii: 'savagery', tribal society, characterized by clan and ritual, in which all flows and production are *coded* and *territorialized* into the Earth and its spirit denizens; 'barbarism', the regime of empire, where flows are *recoded* and *reterritorialized* onto the body of the (earthly or celestial) despot; and 'civilization', or capitalism, in which the *decoding* and *detrterritorialization* made possible by abstract money makes capital the full body or socius. On top of this schema we can usefully overlay Bataille's (1989) analyses of the changing manifestation of the sacred. With the territorialized geo-spiritual formation of the tribe comes Bataille's first, impure, 'left-hand' presentation of the sacred, in which the divine is sensuous, material, unconditioned and ambivalent, both light and dark – and indeed the dark, malefic sacred is more powerful, *more* divine, and the light, benefic deities merely mediators between the sacred and profane (see also Stoekl, 2007: 2010 n14). With the formation of empire, and the despot as socius, the ambivalence internal to the divine is recoded onto a new dualism between heaven and Earth, between an absolute, moralized, intelligible, detrterritorialized divine beyond the world and a 'real' world of matter deprived of the periodic immersion in immanence and immediacy. But with the rise of industrialism and capitalism, Bataille argues, following Weber (1985), that the divine is even more distant – or even permanently sundered – from the sensory world.

Fourthly, we need to see how these different geo-spiritual formations deal with Bataille's 'accursed share' of excess energy. Bataille argues that in the 'general economy' of nature, governed by the continuing gifting by the sun

of its energy in unproductive expenditure, the key problem is not scarcity but abundance: 'the living organism... ordinarily receives more energy than is necessary for maintaining life; ... if the excess cannot be completely absorbed in ... growth, it must necessarily be lost without profit; it must be spent, willingly or not, gloriously or catastrophically' (Bataille, 1988: 21). According to Bataille, tribal societies solve the problem of lost immanence and surplus through temporarily reconnecting with the sacred in festival and the *sacrifice of the useful*, including human sacrifice. Sacrifice places both sacrificed and sacrificer back in immanent immediacy, but also indirectly 'lifts and preserves' (sublates) the real, profane world of fields and herds. With the rise of empires and military order, however, festival is replaced by warfare as expenditure and violence are (a) made productive and (b) externalized – resulting in the expansion of territory and power. Finally, in industrial capitalism, the empirical world is now understood only in terms of productive expenditure, with non-productive destruction reserved, where monotheism persists, for the hereafter. Violence and carnivalesque waste are thus suppressed and any surplus is reinvested in order to grow the economy.

We will later have to make some further theoretical steps but this is enough at least to talk about the high gods of a new geological epoch.

### **The High Gods of a New Epoch**

So let us start the task of mapping geo-spiritual formations by trying to enumerate the warring, Olympian gods of the Anthropocene, the rival totalising deities that clash furiously in the contemporary geophilosophical imaginary. For, out of the melee of transformations occurring in the Earth and beyond, the reconfiguration of fluxes and flows, the destratification of minerals and energies long dormant in the Earth and their restratification into new layers, are being convened 'full bodies' on whom these complex processes of planetary change are being coded, and in whose name and image bands of devotees armed with their own liturgies thereby seek to remake or unmake the Earth.

First in our list must come the **Anthropos** of the canonical Anthropocene narrative – the elevated, abstract human as the full, clothed body onto which all flows of matter and value in the new epoch of the Earth are recoded and inscribed. This is abstract human as *despot*, with individual human bodies and technological extensions 'his' arms, eyes and ears. He (for he is surely a 'he', and a 'he' in which the white European 'ethnoclass' is overrepresented (Wynter, 2003)) is the human as the 'end of nature', as that entity at which the chains of utility end and the cosmos is given meaning (Szerszynski, 2012) – who overcodes his retention of past environmental change, and says 'I did this with my hands behind my back', and who overcodes his protention into the future of the Earth, and says 'my destiny is to be the God Species' (Lynas, 2011). Yet in the fullness of geological time this Anthropos is expected to become the subject of a mythic afterfuture on a humanized but humanless planet (Colebrook, 2014) – will die in order to become divine, to take his throne as *homo absconditus* in the Palace of the Ages where reside the onomatophores ('name-bearers') of all ages of all planets (Szerszynski, 2015).

The second must be the **God of Abraham**, whose relation to the new epoch of the Earth is one of equivocation. In the mainstream churches, which are more accepting of notions of geological time and of a world before and

after humans, we find a God that calls us to resist transition to the Anthropocene – most clearly expressed in Pope Francis’s encyclical *Laudato Si’* (2015). But globally such churches are in decline, in favour of new, ‘hard’ apocalyptic monotheisms, a development encouraged by the intensifying extraction of fossil-fuels and minerals and the Earth-system turbulence this engenders. In the Middle East and Africa, Salafist Islam and low-level ‘security chaos’ has been nurtured by the West’s security services in order to assist its access to energy and minerals, but seems to be increasingly turning into an oil-fuelled jihad against Western hegemony (Keenan, 2009; Mitchell, 2011). In the global South, extreme weather events have intensified the desire for meaning and security (Kemkens, 2013), resulting in a retreat from science and rationalism and a growth of fundamentalist and millenarian monotheisms of divine judgement (Campbell et al., 2007: 77; Barkun, 1974; Parenti, 2011). So one face of this God seems to accept the reality of the Anthropocene but demand that we prevent its coming; the other would deny the existence of geological time yet demand an accelerated rush into Anthropocene destruction. It is this latter face that surely inspired Iranian philosopher Reza Negarestani (2008) to promote a mythos in which Salafist-jihadi Islam is a mere mouthpiece for a tellurian revolt by a Middle East that is a living entity, a chthonic power arising in the pores of the solid Earth and determined to bring forward its inevitable destruction.

For the third high god of the Anthropocene is the **sun**, the overwhelmingly dominant source of available energy on the Earth and all inner planets. As Bataille (1988) argued, it is the sun’s continuous gifting of energy to the Earth that conditions finite existence, by providing an excess that has to be destroyed in glorious extravagance. The sun is our local god and will be until it extinguishes itself (Serres, 1982: 169 –74). It is the sun whose lesson of giving without benefit or return was not heeded by industrial society, and it is because of this not-heeding that the buried gift of sunlight thickens the air; that the colossus of the Anthropos has grown into masses, volumes and plates which weigh down on the Earth and alter its systems (Serres, 1995b); and that humanity and their local forms of life are being increasingly bound together into a Leviathanate body. But Negarestani (2010) and others argue that the solar flux itself is not gift but curse, that the sun is a tyrant, and that the Earth must and will rebel against this ‘solar socius’.

So a fourth high deity, then, would be **the Earth**: a reterritorialization of production onto the Earth as a whole. In one temple this high goddess is the Andean deity *Pachamama*, ‘world-mother’, wife of *Pacha Kamaq* (world-creator’) and source of the four Quechua cosmological principles of water, earth, sun and moon, once territorialized and ‘impure’, now moralized as the ‘dynamic living system’ of ‘Mother Earth’, the rights of whom are now protected by Bolivian law (Cadena, 2015). In another, not so far away, she is Gaia, a geophysiological Earth, whose different compartments and systems and species and guilds are so many organs of intensity which serve to maintain the whole (Volk, 2003). Whether she appears as Gaia the mother, or as the more ‘left-handed’ deity Gaia-the-vengeful, this is an Earth who will resist the Anthropocene and shrug it off (Lovelock, 2006) (though there are heretics who would say is the Earth *itself* that is producing the Anthropocene, through generating a new ‘compartment’ of its articulated body, the ‘technosphere’, to which the purposes of humans are becoming increasingly subordinated (Haff, 2014: 396)). Yet just as the ‘full body’ of the Anthropos has been challenged, so too has that of the Earth. For many we need a ‘new

Earth', profanated and liberated from previous 'molar' codings of science and religion. For Bruno Latour (this volume), Gaia is neither a totality nor providential, and has no superadded 'whole' cohering the interacting parts. This is a Gaia taken out of the temple, 'Gaia of a thousand names', each name clashing with every other, who is not a being wholly separate from Lovelock's shifting, living prose, or from the distributed actions of the 'earthbound' 'people of Gaia' across the globe (Latour, 2015). In a similar spirit, Donna Haraway uses the term 'Chthulucene' to decompose the Earth into 'earth-wide tentacular powers and forces' in a politics of 'kin-making' that 'entangles myriad temporalities and spatialities and myriad intra-active entities' (Haraway, 2015: 160). For Negarestani and others, the proponents of 'tellurian rebellion', the Earth is not living Gaia (who only takes living and organismic form because of the monopolistic judgement of the sun) but rotting shell (Negarestani, 2008). These writers relate even more explicitly to Deleuze and Guattari's vision of a 'new earth' made possible by, but overcoming, capitalist decoding: a *fourth* socius – nether tribal nor imperial nor capitalist, where desire follows the molecular flows of the 'body-without-organs' – a 'naked, full body', the site of desire production that exists at the limit of all instituted socii (Deleuze and Guattari, 1977: 281).

So a fifth god – or non-god – would be the **cosmos** – beyond the Anthropos as agent of reason, Yahweh or Earth as full body, or the sun as local god. This is an inhuman cosmic destiny of the mind of reason in which the Anthropocene would figure *neither* as the victory of the human *nor* as the defeat of nature. This antichurch of death and cosmic destiny is inspired in part by Lyotard's reflection on how the eventual death of the sun makes a mockery of merely human reason, not least by suggesting that any surviving, 'post-solar thought' would not be human at all (Lyotard, 1991: 8-23). For Ray Brassier, 'extinction' – the prospect of solar death, the heat death of the universe and ultimately the end of space-time itself – destroys the 'manifest image' of the human (or even the transhuman) in terms of persons and intentional agency. These advocates of cosmic nihilism make space for a kind of celebration of the 'decoding' and ecological death of the Earth as a liberation from solar serfdom and an opening up to cosmic contingency (Negarestani, 2010; Thacker, 2011).

There are other candidates for the pantheon of high gods of the Earth's new epoch, but these five illustrate the main alternative codings, recordings and decodings of the flows of energy and matter of our home planet. However, just as we need a productive clash between Anthropocene 1 and Anthropocene 2, we need to complement our pantheon of 'high gods' with some 'low spirits' – to show how the spatialized, uneven nature of planetary transition is manifest not just at the level of environmental risk and economic development, but also in the realm of spirits.

## Theorising Planetary Spirit II

In order to understand the low spirits of the Anthropocene we need to add a few more ingredients to our sketch for a theory of planetary spirit.

Firstly, to our vocabulary from thermodynamics we need to add some fluid dynamics. In particular we need to add the notion of *turbulence*. In 'laminar' flow, fluids move in an orderly and parallel manner, in which layers moving at different speeds simply slide past each other. In 'turbulent' flow, shear force causes parcels of fluid to diverge to from their path in what

Lucretius called the ‘clinamen’, creating cascading eddies (Serres, 2000). Similarly, history 1 or theology 1 or Anthropocene 1 are laminar, coherent flows; but round the edges of these orderly narratives is a neglected turbulence that at once makes laminar flow possible (through the direction of chaotic, entropic forces away from the orderly flow) but at the same time problematizes any simplified narrative of order. For Serres, contingency, or ‘noise’ is ‘the ground of our being’, the precondition of laminar flow and of all order (Serres, 1995a: 13). Thus within each geo-spiritual formation, along with any ‘laminar’ high gods come a range of turbulent entities – albeit ones that might be subject to their own kind of ‘spatio-temporal fix’ (Jessop, 2006) by being displaced in space or time or otherwise concealed. In particular, we should be open to the possibility that the third social machine, in which capital serves as the full body of the technosphere on which all production is encoded, should also generate its own turbulent spiritual powers.

Secondly, in order to understand the spatially variegated dynamics of the geo-spiritual formation of the Anthropocene we need to further extend our fluid dynamic vocabulary to include the distinction between *diffusion* (local, uncoordinated, multi-directional movement) and *advection* (mass parallel or laminar flow). The accelerating movement of matter and energy around the earth is central to the dynamics of the Anthropocene (Crutzen and Stoermer, 2000; Zalasiewicz et al., 2008). In his analysis of the Earthly flow of matter, Peter Haff (2010) points out that whereas small-scale human and nonhuman mobility systems tend to be diffusion-like (involving slow multi-directional movement), large-scale ones are always advective (involving mass parallel flow) – for example, the jet stream, oceanic gyres, rivers, motorways and railways. Crucially, he argues that there is a thermodynamic imperative for long-distance advective flows to be tuned to local diffusive environmental dynamics. Here he echoes Anna Tsing’s (2005) observation that ‘friction’ – her term for the often-turbulent tuning between long-distance advection and local diffusion in the global flow of materials and commodities – both makes possible and contests global capitalism. In the remainder of the paper I will simplify what is a complex set of relations into a contrast between diffusion, the local and subsistence and gift economies on the one hand, and advection, the global and the market economy on the other.

Thirdly, making things motile (potentially in motion) and mobile (actually in motion) relies on forms of ‘enchantment’. In human culture, long-distance trade mediates between the inside and outside of cultures: between orderly and meaningful human relations within societies and what are felt as the dangerous forces of the cosmos (Helms, 1993). As Tsing argues, in order for gold to be extracted and moved, it has to be ‘enchanted’ in relation to imagined distant markets (Tsing, 2005). For Alf Hornborg (2016), modern technology in general is a kind of ‘global magic’ in that its efficacy depends on human belief and institutions. When technologies are implicated in the global flows of matter, energy and value their ‘local’ efficiency cannot be separated from often long-distance economic relations, especially unequal relations. Thus the power of industrial revolution to bring wealth and order to Europe was contingent on violent relations of unequal exchange; “price relationships (terms of trade) [were an] opaque source of industrial productivity” (Hornborg, 2001).

Fourthly, what we might call ‘motilization’ and the coupling of diffusion and advection has to be understood in relation to *primitive accumulation* (Marx, 1976: 873-6), the often violent moment of separation of

producer and means of production that tears individuals and groups from subsistence and gift economies and binds them into long-distance flows of matter, energy, value and meaning and thus into the thermodynamic logic of the technosphere. Massimo de Angelis (2001), following Rosa Luxemburg, emphasizes primitive accumulation not as a pre-mercantile stage of capitalism but an inherent and continuous moment involved in any transfer of value from pre-capitalist to capitalist areas, continuously reproducing the split between producers and the means of production. For our own purposes, primitive accumulation can thus be seen as a mythic moment of fall and anti-festival – not mythic or ‘theological’ in the sense that Marx (1976: 873-4) used of Adam Smith’s conception of ‘previous accumulation’, as an imagined but false account of events in the deep past used to legitimate contemporary capitalism, but a constant operation of immanence-breaking that invokes immanence as it holds it at bay.

Fifthly, and returning to the thermodynamic language explored above, we need to attend to the way that advective flows can involve the redistribution of ‘entropy’ or disorder both along and orthogonal to the line of flow. In particular, we need a concept of *spiritual entropy*. The importance of unequal exchange for the viability of global capitalism means that imports of natural resources to the global north have to be higher in energy or productive potential, whereas exports of industrial products must be higher in price (Hornborg, 2001: 487). Similarly, as Carl Schmitt argued, the opening up of colonial spaces of appropriation and exception to be ruled solely by force was a necessary condition for the constitution of Europe as a juridical space of treaty and limited, lawful warfare (Schmitt, 2003: 97-8). The global extraction and accumulation of value thus involves a structural violence in flows of matter, energy, value and order, thus creating low-entropy rich areas only at the price of also creating high-entropy poor regions. But it also creates and distributes spiritual entropy. For the sixteenth century Spanish Jesuit missionary José de Acosta, the placing of silver in Peru was a divine plan, the creation of a geological gradient that would awaken Spanish greed and result in the evangelization of Indians (Nemser, 2014). But as we shall see, while the Earth is being made to cohere in new ways, and high gods are being summoned in attempts to guarantee its new form, there also come forth low demons.

### **The Low Spirits of Planetary Flow**

In this section I will explore the way that the bulk flow of different kinds of substances and qualities produces forms of spiritual turbulence at both ends of the flow – at sites of consumption and accumulation, and at points of extraction and appropriation – and also in the wider commons of elemental media such as air, water and soil.

Let us first look at the regions of the Earth that have been the main beneficiaries of the global flow of energy, matter and value. Here we have to qualify Bataille’s conclusion that the rise of industrial modernity represented a complete break with the earlier economies of gift, sacrifice and periodic reconnection with immanence, instead focusing solely on productive expenditure. The great acceleration in resource use since 1950 has partly been driven by BRICS countries and others in the global South seeking first-world standards of living (Steffen et al., 2015); yet in the north economic growth has been more about luxury and extravagance, the ecological footprint of which

has been externalized onto future generations, the global South and the commons of atmosphere and ocean. Jean-Joseph Goux (1990) argued that the late twentieth-century postmodern economy has been 'generalized' in Bataille's sense, in that it has become post-bourgeois, detached from either utility or puritan morality, and instead oriented to extravagant expenditure and waste. As Goux argues, this tendency was always latent within political economy, because of its grounding of utility not in any normative schema but in the whim of the buyer. For Agamben, capitalism divides all things from themselves through the division between use and exchange value; and in spectacular, consumer capitalism it is almost impossible to return things to pure, profane use. As in the ancient festival, when tools, animals and human victims were sacrificed to the gods, things have thus become unusable – they have been sacralized (Agamben, 2007: 81-3).

In investment practices, too, the late-modern dynamic is more like potlatch and carnival than the careful, productive reinvestment of surplus. The contemporary entrepreneur paradigmatically risks everything, 'giving' without direct return or expectation – not to meet an existing demand, but in order to create desire. This 'careening acceleration, this fever for any form of production' (Goux, 1990: 222) is economy as delirium (Cooper, 2008: 179, n2), creating money from debt, generating growth beyond Earth's limits and directing innovation into consumer goods rather than transforming the forces of production. Never has Benjamin (1996) been so accurate in his description of capitalism as the ultimate cult, merging work and holiday in a continuous festival.

However, it is in regions of appropriation where spiritual entropy is perhaps easiest to identify. Although primitive accumulation is by necessity a perpetual and ubiquitous mythic moment of rupture continuously operating across the capitalist hegemon, it is most clearly manifest in the locations and times of the incorporation of non-capitalist spaces into capitalist flow and accumulation – in the shift from diffusion to advection, as intimate bonds are loosened and local gift economies are incorporated into a necropolitical global festival of unproductive expenditure that turns living flows into dead things (Mbembe, 2003). Here, refracted through Deleuze and Guattari's *socii*, we find spiritual entropy manifesting in malevolent entities such as cannibals, vampires and devils. Some of these arise within territorialized geo-spiritual formations, some are specific to the deterritorialized context of global capitalism, and some are territorialized earth-beings that have been transformed into deterritorialized entities. As Eugene Thacker argues, these figures of horror in different ways thematize the limits of human thought when confronted by the immanence-breaking relation between the human and the non-human, and between individual living beings and life itself (Thacker, 2011: 30-1, 117). However, they take on more specific significance when located within the shifting geo-spiritual formations of the Earth.

My first example is a territorialized, 'first-socius' one. The Yanomami people of northern Brazil and Venezuela have seen their lives and forest suffer since the Amazon was opened up to trade, resource extraction and agriculture and livestock production (Tavares, 2013). The Yanomami see the oil and metals that lie under their forest as the remains of an earlier sky that fell, hidden under the ground by their god Omama, 'evil and dangerous things' which white people – who are *Yoasi thëri*, ('people of Yoasi', Omama's evil brother) – unearth, cook in their factories, and use to produce metal tools, cotton cloths, and plastic goods that they offer to the Yanomami in trade.

These objects give off dangerous fumes that have in turn produced an invasion of evil cannibal spirits, the *xawarari*, spirit doubles of the white people that eat the chests of the Yanomami and make them sick, and the chest of the current sky and threaten to make it, too, fall (Kopenawa and Albert, 2013: 288). Thus, juddering against the laminar Anthropocene 1 narrative of incorporation into the 'open veins' of a global Anthropos (Galeano, 1973), in the 'Anthropocene' 2 narrative of the Yanomami the Western grand narrative of human techno-energetic progress is debased into a story of fumes and cannibalism. This is a territorialization of multiple forms of Anthropocene violence – the creation of desire for consumer goods, the motilization of long-buried geological resources and the disruption of the atmospheric commons – in which they are coded onto the back of the forest/old sky *Hutukara*, and onto the chest of the current sky which the Yanomami must now keep in place through continuous ritual (Kopenawa and Albert, 2013: 130).

In other areas of accumulation through dispossession and extraction, spiritual entropy manifests in more third-socius forms of spirit such as the vampire. Unlike the *xawarari* cannibal spirits of the Yanomami, the vampire is a deterritorialized, global monster, set to subjugate the world. In Franco Moretti's classic reading, Dracula is a global, totalising figure of the bourgeoisie – a saver, who must use every drop, who cannot die, and who must create ever more victims and subjugate the whole of society (Moretti, 1982). We can see this third-socius dynamic in Luise White's (1993; 2000) accounts of stories of vampires that emerged in the early-twentieth-century Central and East Africa – rumours of bloodsucking agents of colonialism, operating in cars, trucks or other enclosed vehicles. Game rangers were called *banyama*, literally 'men of meat', and firemen *wazimamoto*, 'men who extinguish heat' – names which more than lent themselves to vampiric reinterpretation (White, 2000: 10-14). The blood-sucking vampire was not a traditional figure of the African spiritual landscape, having emerged only in the colonial context; neither was the figure of the vampire used to make individual accusations of spiritual harm, like the witch. The whole logic of the *banyama* was their immersion in chains of command and control – and indeed the ambiguity over whether they existed at all. Stories of blood suckers were closely associated with the 'veiling of labor ... with metal and electrical equipment' (1993: 36-8). The spread of skilled labour using western 'technical machines' was an important moment in the spiritual extraction of African society, as local sources of value and meaning were made subordinate to global flows, ones that gave rise to rumours of vampires. The vampire also features in the mythology of Hashima, a now-abandoned island coal-mine off Nagasaki, Japan with a brutal colonial history of forced labour. Korean writer Han Soosan fictionalized the many memoirs of workers there in his 2003 novel *Gunkanjima*, with 'blood-sucking vampires of superstructural imperial capital' aboveground and 'dehumanised monsters of subterranean labor' below (Tsuneishi, 2012: 133).

Another figure which can appear when local diffusive circulations of value and meaning are disrupted by new reified forms of power such as writing, technology and money, and swept up into global advective flows is the Devil. As the dark inversion of divine mastery, the Devil is a second- socius figure who nevertheless comes to express third-socius forms of global magic. For Teresa Brennan, the Devil is a foundational infant fantasy of omnipotence, a denial of the aporetic metabolic relation between inside and outside, a being who has no life of his own so survives only by capturing life. From the late

medieval period onwards the Devil is associated with the production of money from money and the conversion of the energies of life into dead commodities (Brennan, 2000: 8). So it should not be surprising that the Devil appears at moments of expropriation, as local gift economies are incorporated into global flows.

A useful example involves the changing character of mining spirits. Michael Taussig (2010) and June Nash (1979) have provided ethnographic accounts of Bolivian tin miners propitiating *El Tio*, the devil uncle who is said to own the deposits, and is often present as a grotesque statue fashioned from mineral, clay, metal, glass and pieces of mining equipment. This kind of ritual practice is not unusual in traditional mining cultures, who, even when incorporated into distanced networks of exchange, understood that the safety and productivity of mining depended on maintaining a 'first-socius' gift economy with the spirits of the Earth and the mine as a living entity. At least until the late nineteenth century, English miners often referred to 'the Old Man', where 'old' referred as much to mythic as to historical time. Thus when Yorkshire miners found seams that had already been worked, they would use 'T'owd man' to refer to the past miners who had worked there, or sometimes to the seams themselves, as if they were part of his territorialized 'full body' (Wright, 1898: 338; see also Piper, 2007). Generally, European mining spirits were ambivalent creatures – sometimes malign, sometimes helpful – who needed to be propitiated. Similarly, Bolivian miners saw the mine as a living entity and *El Tio* as the owner of the deposits, without whose cooperation the mine would not give up its bounty.

However, as the conditions of mining became even more harsh in the late twentieth century, the Devil came to represent the 'death' that occurs when local diffusion is channelled by long-distance advection. Rather than long-distance trade safely mediating across the material, economic and semiotic boundary separating the forces inside and outside a society (Helms, 1993), it thus came to undermine it, and what start out as reciprocal gift exchanges within a living mine were ending up as dead commodity exchanges (Taussig, 2010: 224). *El Tio* thus came to stand in for the mine owner and the oppression experienced by the miners, and what were once rites of exchange with the statue become 'rites of misfortune'.<sup>3</sup>

Thus we have seen how the spiritual-entropic effects of the global flows of the Anthropocene are felt at both ends of these flows, albeit very differently. Consumption and accumulation take the form of a strange new form of the sacrificial festival, in which the dominant form of consumption is of sacralized commodities taken away from profane use, and investment and accumulation involve an extravagant bacchanalian delirium. At points of incorporation of local subsistence and gift economies into the global flows that animate this neo-festival, by contrast, the ongoing immanence-breaking of primitive accumulation manifests as low spirits whose existence serves the socius (capital) of the capitalist geo-social formation – the cannibal spirits, vampires and appearances of the Devil that effect the motilization involved in the incorporation of local diffusion into global advection.

However, the distribution of spiritual entropy in the multiple body of the Earth does not just occur along the advective flows of matter, energy and value; the latter also have wider effects on the environmental commons of the atmosphere and the water cycle. In indigenous cultures, local climate change is typically understood not according to global scientific narrative but in terms of (first-socius or second socius) gods reacting to the abandonment of old

ways (Veldman et al., 2014). For example, in the village of Tapay in the Peruvian Andes, ritual offerings of *pago* such as seeds and leaves, animal fat and starfish have traditionally been made to territorialized mountain deities and ancestors in order to ensure the continuing flow of the rain and springs, and hence a bountiful harvest. Recently, irregular precipitation and temperature fluctuations have decreased the flow of water to the village, and Tapeños interpret this as the action of the mountain deities punishing them for their lack of observance of the *pago* rituals and their adoption of Western lifestyles. However, they no longer believe that observing the rituals will make the rains come – but they nevertheless fear that stopping them completely will cause the mountain deities to become angry and punish them. In this case ‘humans’ relation with the non-human forces is no longer reciprocal but based on the latter’s raw power to punish the former for their disrespect or newly acquired consumer habits contaminating the environment’ (Paerregaard, 2013: 302).

With the faltering flow of the river Ganges, we see a different pattern. In Hindu thought, the Ganges is the Milky Way manifest on Earth. This sacred river ‘nourishes and purifies the world, flowing through it and finally into the great ocean’. It represents ‘the descent of eternity into time’, bringing time and souls into the world, and carrying them back out again into heaven (Kloetzli and Hildebeitel, 2004: 562). At Manikarnika Ghat in Uttarkashi, an important place of worship on the Bhagirathi River, the headstream of the Ganges, the changing hydrosphere is already manifest, with reduced flow alternating with devastating floods. The women worshipping there are aware of wider environmental change, yet seem unconcerned about the changes in the river, since for them the Ganges is a heavenly entity independent of the variations in the water cycle. They say that the scriptures have always predicted that it will leave Prithvi (Earth), but that it will continue to flow in Svarga (heaven), in Patal (the underworld) and in the hearts of devotees (Drew, 2012).

The examples could be proliferated. But what is striking in these two cases of spiritual entropy in the environmental commons is that in the first, as with the miners of Bolivia, what had once been rites of gift are now becoming rites of misfortune; ambivalent Earth deities are turning into malevolent low spirits. In the second case, the status of the Ganges as a heavenly but also territorialized spiritual entity seems to be becoming an impossible option in an epoch of disrupted Earth systems, with the prospect of the goddess Ganga being wholly reterritorialized into a high god of ‘heaven’. It may be that detached high gods and all-too attached low spirits are becoming the dominant forms of spirit in the new epoch of the Earth.

## Conclusion

In this paper I have argued that we not only need to ‘decolonize’ the Anthropocene but also need to ‘desecularize’ it – to be aware that we will share any new epoch of the Earth with spiritual agencies of different kinds. I have started to sketch an interdisciplinary theory of planetary spirit, combining resources from the social sciences – social theory and anthropology – and from the physical sciences – thermodynamics and fluid dynamics – in order to identify both the laminar ‘high gods’ of time that seek to summon the story of Earth’s ongoing transformation into a canonical mythos, and the turbulent ‘low spirits’ of place which manifest particular, situated dynamics on an Earth crossed by interlocking gradients and flows of energy, value, power

and entropy. The gods and spirits enumerated here are not mere epiphenomena of more fundamental social, economic, technical and natural processes, but an integral part of what make things flow, tune, and distribute entropy and order in the changing body of the Earth. It may or may not be officially decided that we should indeed call the new epoch of the Earth 'the Anthropocene'; but either way we will not be alone in it.

I have suggested, perhaps counterintuitively, that we can use natural-science concepts to build a way of talking about the Earth that exceeds any unified naturalistic understanding. Just as Dipesh Chakrabarty used the tension between analytical-critical and hermeneutic traditions in the social sciences to destabilize European ideas of unified history and a secular ground reality, the natural sciences also contain resources, such as bifurcation, turbulence and motilization, that can be drawn upon to similar ends. Furthermore, I have used this constellation of ideas to suggest that our transformed planet is coming to combine ontological multiplicity and interconnectedness in new ways. If we can usefully apply terms from science and technology studies and anthropology to the Earth's spiritual body – if we can say that it is 'heterogeneous' and 'fractional' (Law, 2002), is 'more than one but less than many' (Strathern, 1991: 35) – we nevertheless have to do so in a way that is sensitive to the profound way that the Earth is changing. If it is true, as historical anthropologists tell us, that there is no unified historical time of the Earth – that the liturgy that summons the high god 'Anthropos' relies on treating European history as the story of the whole planet (Morrison, 2015) – nevertheless, the multiple times of the Earth are being braided together ever more tightly. As geographically distant regions of the Earth are increasingly conjoined by accelerating flows of matter and energy, what might once have been distinct territorialized 'cultures' or 'natures', in which humans engage in particular situated patterns of interaction with non-human agencies, are being convened into a topologically complex global multinatural system. If the Earth is entering a new epoch, I would suggest, it is one in which we will have to pay attention not only to our own gods, spirits and demons, but also to many others, distributed but also increasingly cohered across a troubled planet.

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### Notes

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<sup>2</sup> For example at the conference *The Thousand Names of Gaia: From the Anthropocene to the Age of the Earth*, Rio de Janeiro, Brazil, 15-19 September 2014

<sup>3</sup> Taussig also writes about sugar cane workers on Columbian plantations, who explained the extraordinary productivity – and thus wages – of some workers by saying they had made a pact with the Devil; however, the land worked and money made under the devil's pact was cursed and barren (Taussig, 2010). This phenomenon echoes the emergence of stories of pacts with the devil that have emerged in other cultures when oral culture is being displaced by writing (Ball, 2014). Writing is experienced as having material powers, as mysterious, given, and hard to make, so linked to magic. But at the same time written agreements open up a gap between the

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spirit and the letter, the latter being more ambiguous than spirit in its openness to interpretation, and particularly dangerous at moments of expropriation of local flows by global advection when they can recalibrate power between landed and landless.

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